

**UNITED STATES DEPARTMENT OF AGRICULTURE
NATURAL RESOURCES CONSERVATION SERVICE**

ECOLOGICAL SITE DESCRIPTION

ECOLOGICAL SITE CHARACTERISTICS

Site Type: Rangeland

Site ID: R070XB068NM

Site Name: Limy

Precipitation or Climate Zone: 13 to 16 inches

Phase:

PHYSIOGRAPHIC FEATURES

Narrative:

This site occurs as depressions or sinks on plains and terraces o or adjacent to playa lakebeds. Slopes are level too gently undulating, usually less than 3 percent. Exposure varies and is not significant. Elevation ranges from 3,500 to 4,800 feet above sea level.

Land Form:

1. Depressions
2. Plains
3. Terraces

Aspect:

1. N/A
- 2.
- 3.

	Minimum	Maximum
Elevation (feet)	3,500	4,800
Slope (percent)	0	3
Water Table Depth (inches)	N/A	N/A
Flooding:	Minimum	Maximum
Frequency	N/A	N/A
Duration	N/A	N/A
Ponding:	Minimum	Maximum
Depth (inches)	N/A	N/A
Frequency	N/A	N/A
Duration	N/A	N/A

Runoff Class:

Negligible to medium.

CLIMATIC FEATURES

Narrative:

The climate of this area can be classified as “semi-arid continental”.

Annual average precipitation ranges from 13 to 16 inches. About seventy eight percent of the moisture usually falls during the six-month period of May through October. Most of this summer precipitation falls in the form of brief and heavy afternoon and evening thunderstorms. Hail may accompany the more severe summer storms. In the winter, there is normally only one day a month when as much as one-tenth inch of moisture falls, usually in the form of snow. Snow seldom lies on the ground for more than a few days.

Temperatures are characterized by a distinct seasonal change and large annual and diurnal temperature ranges. Summers are moderately warm. Maximum temperature average above 90 degrees F from July to August and an average summer includes about 80 days with high readings exceeding 90 degrees F and 10 days with readings above 100 degrees F. Temperatures usually fall rapidly after sundown and low of 60 degrees F on most summer nights. Winters are mild, sunny and dry. Daytime shade temperatures in midwinter usually rise to the 50's. However, freezing temperatures normally occur at night from mid-November to mid-March.

The freeze-free season ranges from 190 to 197 days. Dates of the last freeze are April 11th to April 17th and the first freeze varies from October 20th to October 25th.

Both temperature and rainfall distribution favor warm-season, perennial plant communities in the area. However, sufficient late winter and early spring moisture allows a cool-season species to occupy a minor component within the plant community

Climate data was obtained from <http://www.wrcc.sage.dri.edu/summary/climsmnm.html> web site using 50% probability for freeze-free and frost-free seasons using 28.5 degrees F and 32.5 degrees F respectively.

	Minimum	Maximum
Frost-free period (days):	164	196
Freeze-free period (days):	190	218
Mean annual precipitation (inches):	13	16

Monthly moisture (inches) and temperature (°F) distribution:

	Precip. Min.	Precip. Max.	Temp. Min.	Temp. Max.
January	0.23	0.46	21.6	57.3
February	0.30	0.44	24.0	59.2
March	0.46	0.65	29.1	68.0
April	0.36	0.92	36.3	78.3
May	0.42	1.68	45.7	82.6
June	1.20	1.86	52.2	91.2
July	2.03	2.73	59.1	92.9
August	2.09	2.75	58.1	91.0
September	1.65	1.92	51.1	84.8
October	1.23	1.93	40.1	74.7
November	0.46	0.88	28.9	63.0
December	0.37	0.62	22.1	54.6

Climate Stations:

Station ID	Location	Period	
		From:	To:
290205	Alamogordo Dam, NM	1972	2000
293292	Fort Sumner, NM	01/01/14	2000
297254	Ramon 8SW, NM	03/04/57	122/31/01
298596	Sumner Lake, NM	01/01/21	12/31/01
299851	Yeso, NM	01/01/48	12/31/01

INFLUENCING WATER FEATURES**Narrative:**

This site is not influenced by water from a wetland or stream.

Wetland description:

System	Subsystem	Class
N/A		

If Riverine Wetland System enter Rosgen Stream Type:

N/A

REPRESENTATIVE SOIL FEATURES

Narrative:

The soils of this site are deep and well drained with high lime horizons above 20 inches. The surface layer is fine sandy loam, very fine sandy loam and loam. They are strongly calcareous. The underlying layers may be loam, clay loam or silt loam. The soils have moderate permeability. The available water-holding capacity is moderate. The plant-soils-air-water relationship is fair. Because of the rather coarse surface texture and high lime content, the soils are easily windblown if not protected by vegetation or organic residue.

Parent Material Kind: Marine Deposits

Parent Material Origin: Mixed - Calcareous

Surface Texture:

1. Fine sandy loam
2. Loam
3. Very fine sandy loam
4. Sandy clay loam

Surface Texture Modifier:

1. N/A
2.
3.

Subsurface Texture Group: Loamy

Surface Fragments <=3" (% Cover): N/A

Surface Fragments >3" (% Cover): N/A

Subsurface Fragments <=3" (%Volume): N/A

Subsurface Fragments >=3" (%Volume): N/A

	Minimum	Maximum
Drainage Class:	<u>Well</u>	<u>Well</u>
Permeability Class:	<u>Slow</u>	<u>Moderately slow</u>
Depth (inches):	<u>60</u>	<u>>72</u>
Electrical Conductivity (mmhos/cm):	<u>0.00</u>	<u>4.00</u>
Sodium Absorption Ratio:	<u>N/A</u>	<u>N/A</u>
Soil Reaction (1:1 Water):	<u>7.9</u>	<u>9.0</u>
Soil Reaction (0.1M CaCl2):	<u>N/A</u>	<u>N/A</u>
Available Water Capacity (inches):	<u>6</u>	<u>9</u>
Calcium Carbonate Equivalent (percent):	<u>N/A</u>	<u>N/A</u>

PLANT COMMUNITIES

Ecological Dynamics of the Site:

Plant Communities and Transitional Pathways (diagram)

Plant Community Name: Historic Climax Plant Community

Plant Community Sequence Number: 1 **Narrative Label:** HCPC

Plant Community Narrative: Historic Climax Plant Community

This site is a warm-season grassland dominated by short and mid-grasses mixed with shrubs and variety of forbs. The forb composition fluctuates from year to year depending upon moisture conditions,

Canopy Cover:

Trees	0
Shrubs and half shrubs	10 %
Ground Cover (Aveage Percent of Surface Area).	
Grasses & Forbs	25
Bare ground	35
Surface gravel	0
Surface cobble and stone	0
Litter (percent)	30
Litter (average depth in cm.)	3

Plant Community Annual Production (by plant type): _____

Plant Type	Annual Production (lbs/ac)		
	Low	RV	High
Grass/Grasslike	375	713	1,050
Forb	50	95	140
Tree/Shrub/Vine	75	143	210
Lichen			
Moss			
Microbiotic Crusts			
Total	500	950	1,400

Plant Community Composition and Group Annual Production:

Plant Type - Grass/Grasslike

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
1	BOGR2 BOHI2	Blue Grama Hairy Grama	171 – 190	171 – 190
2	BOCU	Sideoats Grama	114 – 143	114 – 143
3	BOER4	Black Grama	76 – 95	76 – 95
4	SPCR HENE5	Sand Dropseed New Mexico Feathergrass	48 – 76	48 – 76
5	PLMU3 SEVU	Tobosa Plains Bristlegrass	29 – 48	29 – 48
6	MUTO2 ARIST LYPH	Ring Muhly Threeawn spp. Wolftail	29 – 48	29 – 48
7	SPAI PAOB SCSC BABO3	Alkali Sacaton Vine-mesquite Little Bluestem Cane Bluestem	10 – 29	10 – 29

Plant Type - Forb

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
8	SPHAE PSLA3 HOFFM	Globemallow spp. Leatherweed Croton Hoffman Seggia spp.	10 – 29	10 – 29
9	2FP 2FA	Other Perennial Forbs Other Annual Forbs	29 – 48	20 – 48

Plant Type – Tree/Shrub/Vine

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production
10	YUGL KRLA2	Small Soapweed Yucca Winterfat	29 – 48	29 – 48
11	ATCA2 EPVI GUSA2 PACAL5	Fourwing Saltbush Mormon-tea Broom Snakeweed Woolly Groundsel	10 - 29	10 – 29

Plant Type - Lichen

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Moss

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Type - Microbiotic Crusts

Group Number	Scientific Plant Symbol	Common Name	Species Annual Production	Group Annual Production

Plant Growth Curves

Growth Curve ID 4017NM

Growth Curve Name: HCPC

Growth Curve Description: Grassland of warm-season short and mid-grass with minor components of shrubs and forbs.

Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
0	0	3	5	5	10	25	30	15	7	0	0

ECOLOGICAL SITE INTERPRETATIONS

Animal Community:

Habitat for Wildlife:

This site provides habitats, which support a resident animal community that is characterized by pronghorn antelope, desert cottontail, plains pocket gopher, marsh hawk, horned lark, meadowlark, lesser earless lizard, bullsnake and ornate box turtle.

Hydrology Functions:

The runoff curve numbers are determined by field investigations using hydrologic cover conditions and hydrologic soil groups.

Hydrologic Interpretations

Soil Series	Hydrologic Group
Arch	B
Armesa	B
Chispa	B
Jal like	B
Karde	B

Recreational Uses:

Recreation potential is limited largely by the lack of live water. It is suitable for camping, hiking; picnicking is fair. The terrain typical of the “wide open spaces” of the area enhances the aesthetic appeal. The natural beauty is limited due to the high lime soils that limit the variety and abundance of flowering plants. Hunting is fair for small game and upland game birds and is fair hunting for antelope.

Wood Products:

This site produces no significant wood products.

Other Products:**Grazing:**

This site can be grazed any season of the year by all classes and ages of livestock. It is better suited to the cow/calf or yearling due to the large percentage of grass in the potential plant community. Sheep or antelope could utilize the minor portion of the stocking rate. Continuous grazing yearlong or grazing continually during the period from March to October will result in a decrease of species such as black grama, sideoats grama, New Mexico feathergrass, plains bristlegrass, vine-mesquite, little bluestem, winterfat and fourwing saltbush. Species such as blue grama, sand dropseed, ring muhly, threeawn spp. and broom snakeweed will increase. Mesquite and burrograss will invade this site under continuous heavy grazing pressure. Blue grama will form a low dense turf under continuous grazing pressure. A system of deferred grazing by domestic livestock, which varies the season of grazing and rest during successive years, will result in healthy high forage producing plant community. Fall and winter rest will benefit species such as winterfat and black grama. Cattle show a definite seasonal preference to black grama and usually utilize it heavily during the late winter from January through March. Black grama cures well and is higher in protein than the other dormant grasses during this period. Spring rest (April-June) will allow species such as New Mexico feathergrass to grow and reproduce. Summer rest (July-September) benefits warm-season species such as black grama, sideoats grama, blue grama, plains bristlegrass and vine-mesquite and allows them to gain vigor and reproduce. Eighty-five percent of the annual production is from species that provide forage for grazing animals.

Other Information:**Guide to Suggested Initial Stocking Rate Acres per Animal Unit Month**

Similarity Index	Ac/AUM
100 - 76	2.6 – 4.9
75 – 51	3.3 – 6.0
50 – 26	4.4 – 9.2
25 – 0	9.2+

Plant Part	Code	Species Preference	Code
Stems	S	None Selected	NS
Leaves	L	Preferred	P
Flowers	F	Desirable	D
Fruits/Seeds	F/S	Undesirable	U
Entire Plant	EP	Not Consumed	NC
Underground Parts	UP	Emergency	E
		Toxic	T

Plant Preference by Animal Kind:

Animal Kind: Livestock

Animal Type: Cattle

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	D	P	P	P	P	P	D	D	D
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Vine-mesquite	Panicum obtusum	EP	D	D	D	D	D	D	D	D	D	D	D	D
Plains Bristlegrass	Setaria vulpiseta	EP	D	D	D	D	P	P	P	P	P	D	D	D
New Mexico Feathergrass	Hesperostipa neomexicana	EP	D	D	P	P	P	D	D	D	D	D	D	D
Winterfat	Krascheninnikovia lanata	L/S	D	D	P	P	P	P	P	P	D	D	D	D

Animal Kind: Livestock

Animal Type: Horse

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	D	P	P	P	P	P	D	D	D
Plains Bristlegrass	Setaria vulpiseta	EP	D	D	D	D	P	P	P	P	P	D	D	D

Animal Kind: Livestock

Animal Type: Sheep

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Sideoats Grama	Bouteloua curtipendula	EP	P	P	P	P	P	P	P	P	P	P	P	P
Little Bluestem	Schizachyrium scoparium	EP	D	D	D	D	P	P	P	P	P	D	D	D
Black Grama	Bouteloua eriopoda	EP	P	P	P	D	D	D	D	D	D	D	P	P
Plains Bristlegrass	Setaria vulpiseta	EP	D	D	D	D	P	P	P	P	P	D	D	D
Winterfat	Krascheninnikovia lanata	L/S	P	P	P	P	P	P	P	P	P	P	P	P

Animal Kind: Wildlife

Animal Type: Antelope

Common Name	Scientific Name	Plant Part	Forage Preferences											
			J	F	M	A	M	J	J	A	S	O	N	D
Globemallow	Sphaeralcea spp.	EP	U	U	U	D	D	D	D	D	D	U	U	U
Perennial Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
Annual Forbs	Various	EP	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S

SUPPORTING INFORMATION

Associated sites:

Site Name	Site ID	Site Narrative

Similar sites:

Site Name	Site ID	Site Narrative

State Correlation:

This site has been correlated with the following sites: _____

Inventory Data References:

Data Source	# of Records	Sample Period	State	County

Type Locality:

State: New Mexico

County: Chaves, De Baca, Guadalupe, Roosevelt

Latitude: _____

Longitude: _____

Township: _____

Range: _____

Section: _____

Is the type locality sensitive? Yes ☐ No ☐

General Legal Description: _____

Relationship to Other Established Classifications:

Other References:

Data collection for this site was done in conjunction with the progressive soil surveys within the Pecos-Canadian Plains and Valleys 70 Major Land Resource Area of New Mexico. This site has been mapped and correlated with soils in the following soil surveys: San Miguel, Quay, Guadalupe, De Baca and Chaves.

Characteristic Soils Are:

Arch	Armesa
Chispa	Jal like
Karde	

Other Soils included are:

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Site Description Approval:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Don Sylvester	07/26/78	Don Sylvester	07/26/78

Site Description Revision:

<u>Author</u>	<u>Date</u>	<u>Approval</u>	<u>Date</u>
Elizabeth Wright	12/10/02	George Chavez	2/11/03